Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (currently amended): An update method used in an optical disk system to update firmware information, which is stored in a firmware memory, using a microprocessor, wherein the firmware memory serves as an intrinsic execution program memory, the method comprising steps:

fetching a program code and an update program routine from an update source;

storing the program code into a first buffer memory, and storing the update program routine into a second buffer memory, wherein the microprocessor accesses the firmware memory as a data access memory, and accesses the second buffer memory as an execution program memory;

executing the update program routine stored in the second buffer memory, and using the update program routine to write the program code stored in the first buffer memory into the firmware memory in order to update the firmware information;

accessing the firmware memory as intrinsic execution program memory, and accessing the second buffer memory as intrinsic data access memory;

changing a value of a program counter of the microprocessor ~~such that~~ and the microprocessor ~~executes~~ executing the program code stored in the firmware memory at a predetermined location of the program code instead of executing a next instruction in the program code located after the current position of the program counter; and

using the program code as updated firmware information to control the optical disk system.

2 (original): The method of claim 1 wherein changing the value of the program counter of the microprocessor is performed by resetting the microprocessor, which will reset

the program counter of the microprocessor to a predetermined value.

3 (original): The method of claim 1 wherein changing the program counter of the microprocessor is performed by executing a jump statement in the program code of the updated firmware information, and the jump statement will reset the program counter of the microprocessor to a predetermined value.

4 (original): The method of claim 1 wherein the update source, which the program code is fetched from, is an optical disk read by the optical disk system, and the update program routine is fetched from the optical disk read by the optical disk system or from original contents of the flash memory.

5 (original): The method of claim 4 wherein the optical disk is a compact disk, and the optical disk system is a compact disk drive.

6 (original): The method of claim 1 wherein the update source, which the program code is fetched from, is a peripheral device connected to the optical disk system through an interface connection, and the update program routine is fetched from the peripheral device connected to the optical disk system through the interface connection or from original contents of the flash memory.

7 (original): The method of claim 6 wherein the peripheral device is a computer, onto which the program code and the update program routine have been downloaded from a software source.

8 (original): The method of claim 6 wherein the interface connection is an IDE interface, an EIDE interface, a SCSI interface, an RS232 interface, a USB interface, or an IEEE 1394 interface.

9 (original): The method of claim 1, wherein the firmware memory is a flash memory.

10 (original): The method of claim 1, wherein the firmware memory is an electrically erasable programmable read only memory (EEPROM).

11 (currently amended): An optical disk system control chip, used in an optical disk system to update firmware information, the control chip comprising:

a microprocessor, coupled to a data bus, wherein the microprocessor is also coupled to a firmware memory through the data bus, in which the firmware memory is used to store the firmware information;

a decoder, coupled to the microprocessor through the data bus, wherein the decoder is also coupled to a first buffer memory, and the decoder receives updated firmware information from an update source;

a controller, coupled to the decoder, and coupled to the microprocessor through the data bus, wherein the controller is used to receive a control signal and general data; and

a second buffer memory, coupled to the microprocessor through the data bus,

wherein when the optical disk system is operated in an update mode, the microprocessor accesses the firmware memory as a data access memory and accesses the second buffer memory as an execution program memory, and after the firmware is completely updated, the second buffer memory is accessed as data access memory and the firmware memory is accessed as execution program memory, and a value of a program counter of the microprocessor is changed ~~such that~~ and the microprocessor executes program code stored in the firmware memory at a predetermined location of the program code instead of executing a next instruction in the program code located after the current position of the program counter.

12 (original): The control chip of claim 11 wherein the control chip further comprises a control circuit used for generating a reset signal, and changing the value of the program counter of the microprocessor is performed by the control circuit issuing the reset signal to the microprocessor, which will reset the program counter of the microprocessor to a predetermined value.

13. The control chip of claim 11 wherein changing the program counter of the microprocessor is performed by executing a jump statement in the program code of the updated firmware information, and the jump statement will reset the program counter of the microprocessor to a predetermined value.

14 (original): The control chip of claim 11 wherein the update source, which the updated firmware information is fetched from, is an optical disk read by the optical disk system.

15 (original): The control chip of claim 14 wherein the optical disk is a compact disk, and the optical disk system is a compact disk drive.

16 (original): The control chip of claim 11 wherein the update source, which the updated firmware information is fetched from, is a peripheral device connected to the optical disk system through an interface connection.

17 (original): The control chip of claim 16 wherein the peripheral device is a computer, onto which the program code and the update program routine have been downloaded from a software source.

18 (original): The control chip of claim 16 wherein the interface connection is an IDE interface, an EIDE interface, a SCSI interface, an RS232 interface, a USB interface,

or an IEEE 1394 interface.

19 (original): The control chip of claim 11, wherein the firmware memory is a flash memory.

20 (original): The control chip of claim 11, wherein the firmware memory is an electrically erasable programmable read only memory (EEPROM).